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THE NEARCTIC SPECIES OF *CONTARINIA* WHICH INFEST GRASSES
(DIPTERA: CECIDOMYIIDAE)

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Of the 32 previously known species of *Contarinia*, only *C. sorghicola* (Coquillett), the sorghum midge, has been reared from grass. The two new species described here were found in and reared from heads of little bluestem and sand bluestem by Dr. J. G. Watts of New Mexico State University. They were not found on sorghum growing in nearby fields.

The genus *Contarinia* may be distinguished from all other gall-midges by the equally binodose ♂ flagellomeres, each node surrounded by one circumfilum; the palpus 4-segmented; the tarsal claws simple; and the radius interrupting the costa at the juncture of the two. The

following is a key to the species of *Contarinia* found on grasses in North America:

1. Fewer than 15 scutal and usually fewer than 25 dorsocentral setae *C. sorghicola* (Coq.)
More than 15 scutal and usually more than 25 dorsocentral setae 2
2. Length of 2nd tarsomere less than 0.360 mm.; usually fewer than 38 dorsocentral and fewer than 30 scutal setae *C. watti*, n. sp.
Length of 2nd tarsomere more than 0.395 mm.; usually more than 38 dorsocentral and more than 30 scutal setae *C. halliicola*, n. sp.

In the following descriptions I have taken advantage of some innovations used by Harris (1964) in his study of the sorghum-midge complex. These are the chaetotaxy of the frontoclypeus and thorax and a method of expressing accurately the dimensions of the third flagellomere. The term, "scutal setae" refers to those setae along the lateral portion of the scutum from the humerus to the scutellum.

Contarinia watti, n. sp.

Adults. Antenna in ♂ and ♀ with 12 flagellomeres. Third flagellomere of ♂ (parts expressed as per cent of total length): Proximal node, 32–40 (avg. of 11 observations, 38); internode, 10–14 (12); distal node, 32–43 (39); neck, 06–14 (10). Palpal segments of variable length, about 3:4:5:7. Chaetotaxy: Frontoclypeal setae, 3–8 (avg. of 19 observations, 6); dorsocentral, 21–37 (28); scutal, 16–29 (21); scutellar 7–10 (8); subalar 6–11 (8). Length of tarsomeres (in mm.): I, 0.070–0.080 (avg. of 13 observations, 0.075); II, 0.280–0.360 (0.330); III, 0.125–0.180 (0.155); IV, 0.090–0.110 (0.100); V, 0.080–0.090 (0.85). Wing length: ♂, 1.43–1.53 mm.; ♀ 1.50–1.75 mm. Male genitalia: No apparent distinguishing characters. Ovipositor: Long, protrusible as in other *Contarinia* spp.; length, from 8th abdominal segment to tip, inclusive, 1.90–2.35 mm.

Rearing from heads of little bluestem, *Andropogon scoparius* Michx.

Immature stages. Larva: The last-instar larva is practically featureless as is that of *C. sorghicola*, and also lacks the sternal spatula. Pupa: Two pairs supra-clypeal papillae, one of each haired; 3 papillae over base of each palpus, one haired.

Material examined. Holotype (on slide): "♂; ex little bluestem; coll'd 8-10-1965; reared 8–10 to 8–16; Los Lunas, N. Mex.; J. G. Watts; USNM type # 68932." Deposited in USNM. Paratypes (all on slides): 11♂♂, 8♀♀, 12 pupae, and 5 larvae, coll'd 7–20 to 8-27-1965, Los Lunas, N. Mex., reared 8–10 to 8-24-1965. Two ♂ and 2 ♀ paratypes deposited in the Department of Botany and Entomology of New Mexico State University; the remainder in the USNM.

Contarinia halliicola n. sp.

Adults. Antenna in ♂ and ♀ with 12 flagellomeres. Third flagellomere of ♂ (parts expressed as per cent of total length): Proximal node, 33–38 (avg. of 11 observations, 35); internode, 13–20 (16); distal node, 33–36 (35); neck, 10–15

(13). Proportions of palpal segments about 3: 4: 5: 7, generally averaging slightly longer than in *C. watti*. Chaetotaxy: Frontoclypeal setae, 4-8 (avg. of 21 observations, 6); dorsocentral, 32-51 (41); scutal 24-40 (34); scutellar, 6-13 (9); subalar, 6-13 (11). Length of tarsomeres (in mm.): I, 0.085-0.090 (avg. of 12 observations, 0.090); II, 0.395-0.460 (0.430); III, 0.175-0.225 (0.215); IV, 0.105-0.145 (0.120); V, 0.090-0.105 (0.100). Wing length: ♂, 1.71-1.92 mm.; ♀ 1.89-2.05 mm. Male genitalia: No apparent distinguishing characters. Ovipositor: As in *C. watti* but longer, 2.50-2.75 mm.

Reared from heads of sand bluestem, *Andropogon hallii* Hack.

Immature stages. Larva unknown but probably fits remarks for that of *C. watti*, as does the pupa.

Material examined. Holotype (on slide): "♂; ex sand bluestem; F-4; coll'd 8-23-1965; reared 8-26-1965; Los Lunas, N. Mex.; J. G. Watts; USNM type no. 68933." Deposited in USNM. Paratypes (all on slides): 14 ♂♂, 8 ♀♀, and 8 pupal exuviae, all collected from same locality and on same date as holotype, emergence dates from 8-26 to 9-12-1965. Two ♂ and 2 ♀ paratypes deposited in the Department of Botany and Entomology, New Mexico State University; the remainder in USNM.

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AN APHID WITH FOUR CORNICLES

(HOMOPTERA: APHIDIDAE)

Mr. Roy Latham collected a number of apterous aphids at Orient, Long Island, New York on June 20, 1966 from *Sambucus nigra* which he sent me for determination. These proved to be *Aphis sambucifoliae* Fitch. I was surprised to find that one mature specimen had a pair of adventitious cornicles. These are situated on the following abdominal segment and nearer to the median line. They are cylindrical and narrower, appear to be less heavily chitinized, and are about one-half the length of the primary cornicles.

I had thought that this was an unique instance but, as has so often been said "there is nothing new under the sun," Dr. H. L. G. Stroyan has kindly called my attention to a paper by Remaudière "Sur la presence de cornicules surnuméraires chez un *Aphis*." (Rev. Path. Veg. 43:31-35, 1964). The species in this case was an *Aphis* of the group living on *Euphorbia* spp. and Stroyan writes "the situation of the extra cornicles was as you describe for *sambusifoliae*." He says that Remaudière also refers to a paper by Zimits "Duplication of cornicles in *Megoura viciae* Kalt." (Fol. Zool. Hydrobiol. 2:1-3, 1930, Riga). MORTIMER D. LEONARD, Colloborator, Entomology Research Division, ARS, US Dept. Agriculture, Washington, D.C.